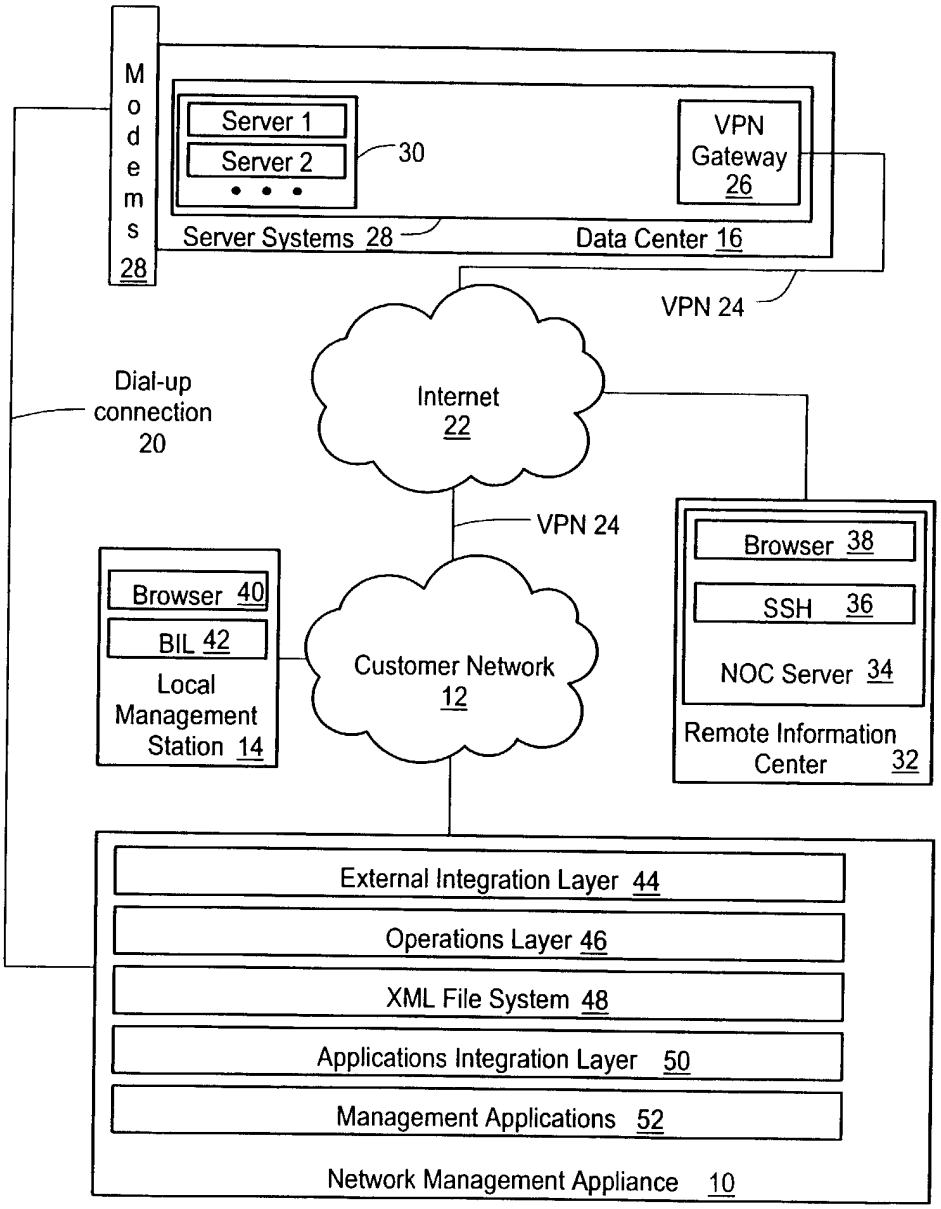
Modems 28
Server 1
Server 2
30
Server Systems 28
Data Center 16
VPN Gateway 26
VPN 24
Dial-up connection 20
Internet 22
VPN 24
Browser 38
SSH 36
NOC Server 34
Remote Information Center 32
Browser 40
BIL 42
Local Management Station 14
Customer Network 12
External Integration Layer 44
Operations Layer 46
XML File System 48
Applications Integration Layer 50
Management Applications 52
Network Management Appliance 10

FIG. 1

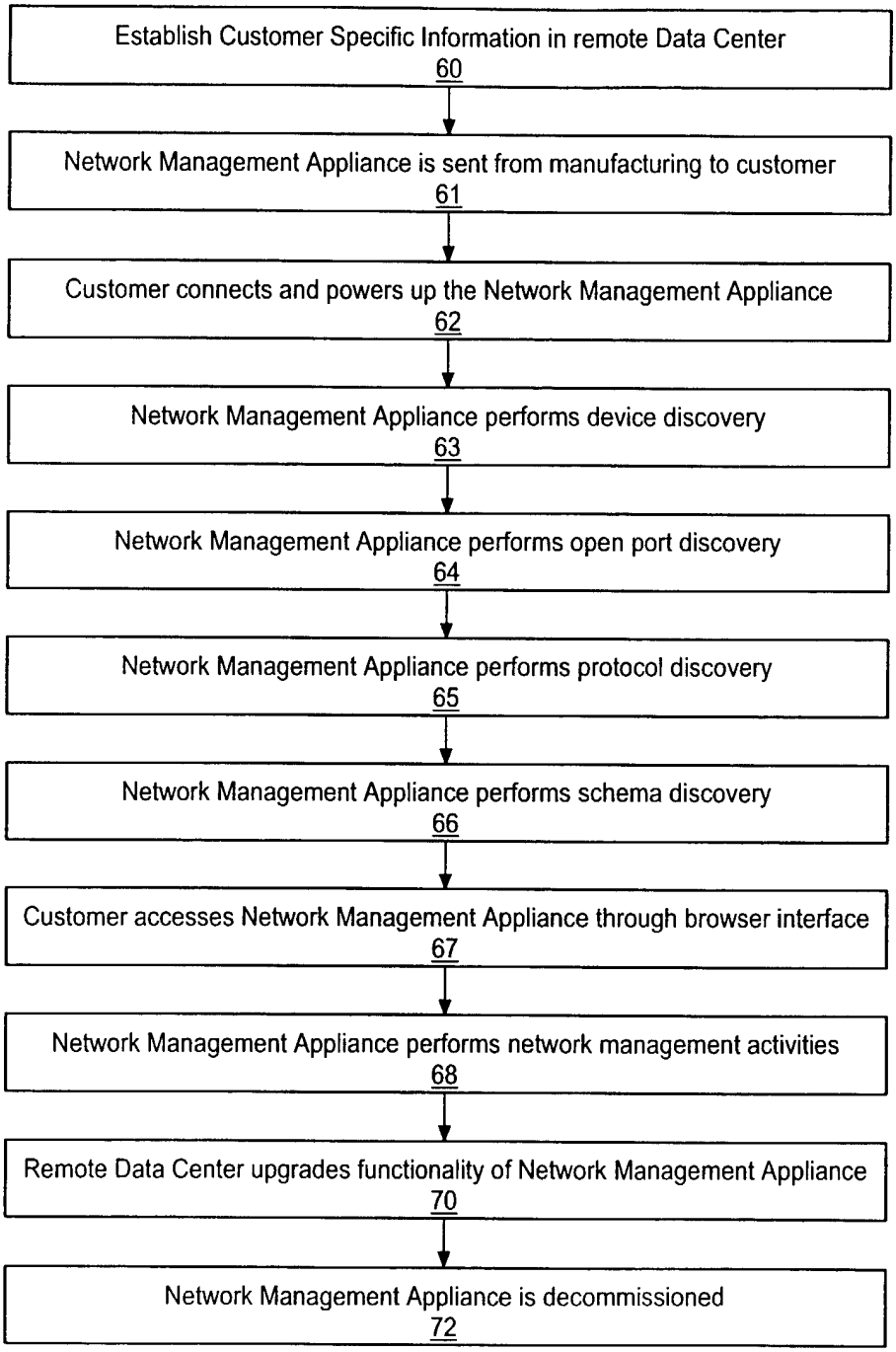
Establish Customer Specific Information in remote Data Center
60
Network Management Appliance is sent from manufacturing to customer
61
Customer connects and powers up the Network Management Appliance
62
Network Management Appliance performs device discovery
63
Network Management Appliance performs open port discovery
64
Network Management Appliance performs protocol discovery
65
Network Management Appliance performs schema discovery
66
Customer accesses Network Management Appliance through browser interface
67
Network Management Appliance performs network management activities
68
Remote Data Center upgrades functionality of Network Management Appliance
70
Network Management Appliance is decommissioned
72

FIG. 2

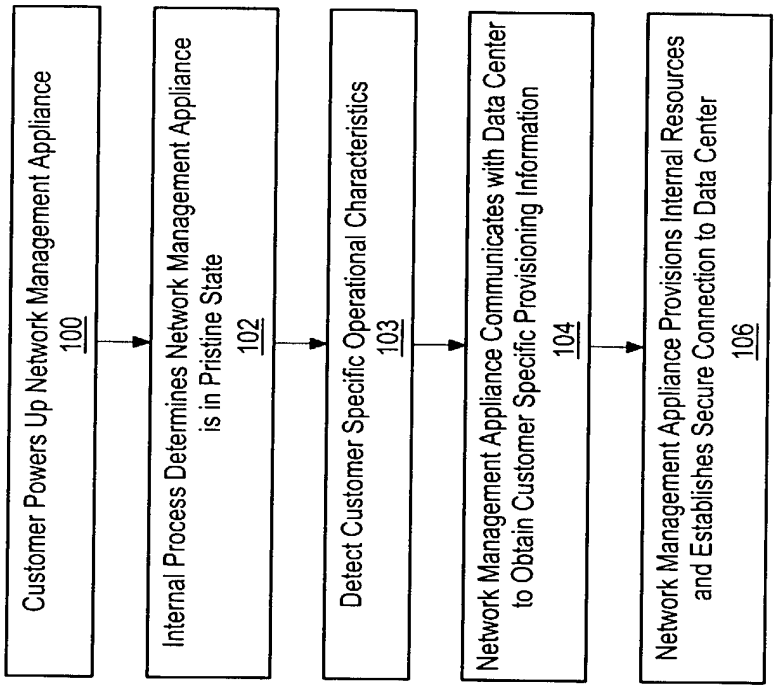
Customer Powers Up Network Management Appliance
100
Internal Process Determines Network Management Appliance is in Pristine State
102
Detect Customer Specific Operational Characteristics
103
Network Management Appliance Communicates with Data Center to Obtain Customer Specific Provisioning Information
104
Network Management Appliance Provisions Internal Resources and Establishes Secure Connection to Data Center
106

FIG. 4

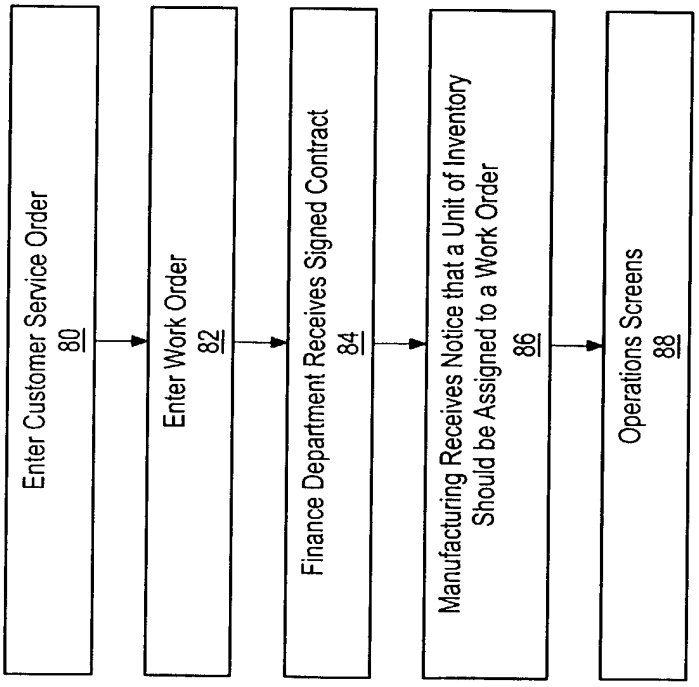
Enter Customer Service Order
80
Enter Work Order
82
Finance Department Receives Signed Contract
84
Manufacturing Receives Notice that a Unit of Inventory Should be Assigned to a Work Order
86
Operations Screens
88

FIG. 3

Title: XML FILE SYSTEM
Inventor Name: Vikram Pillai et al.
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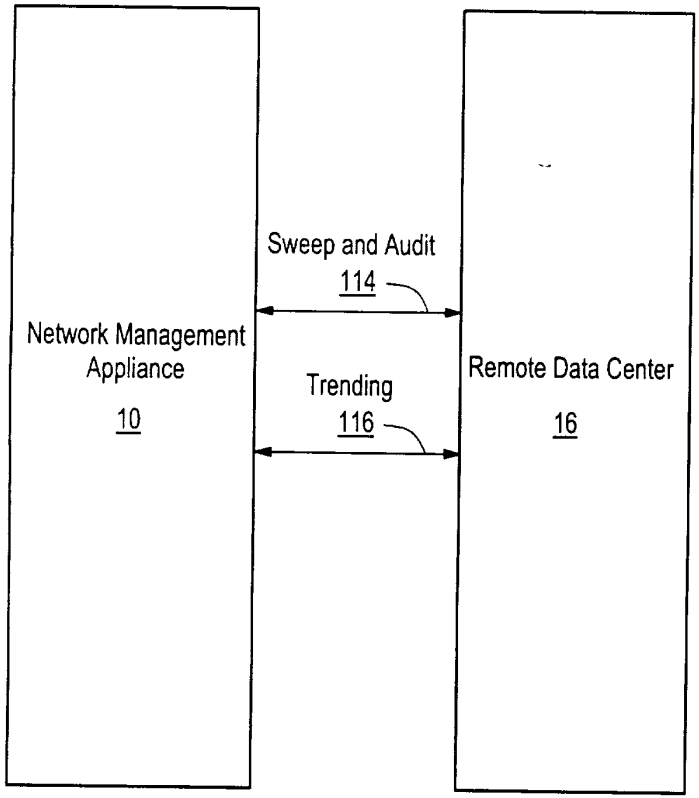

FIG. 5

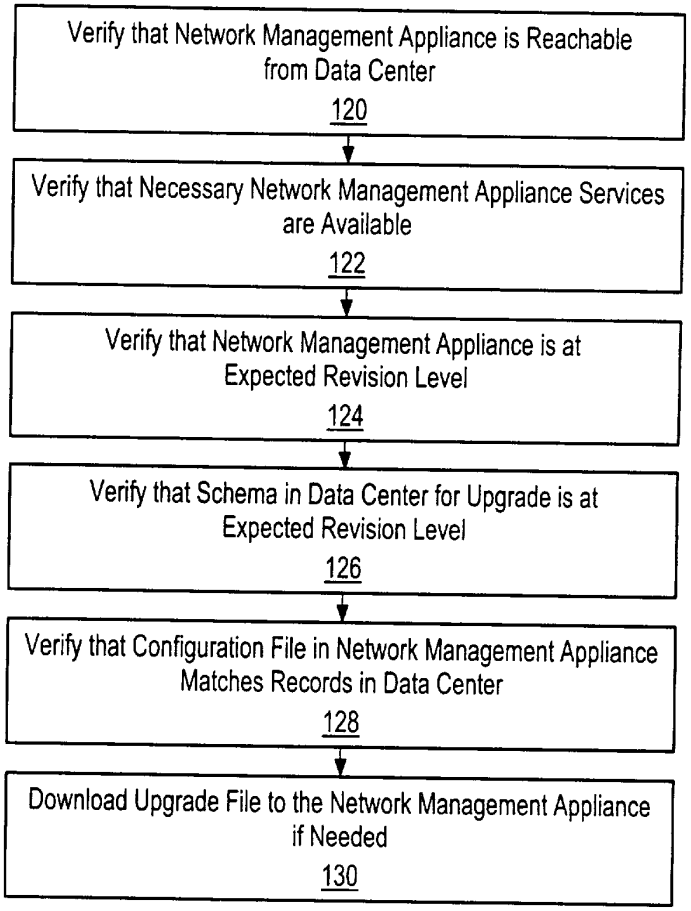

FIG. 6

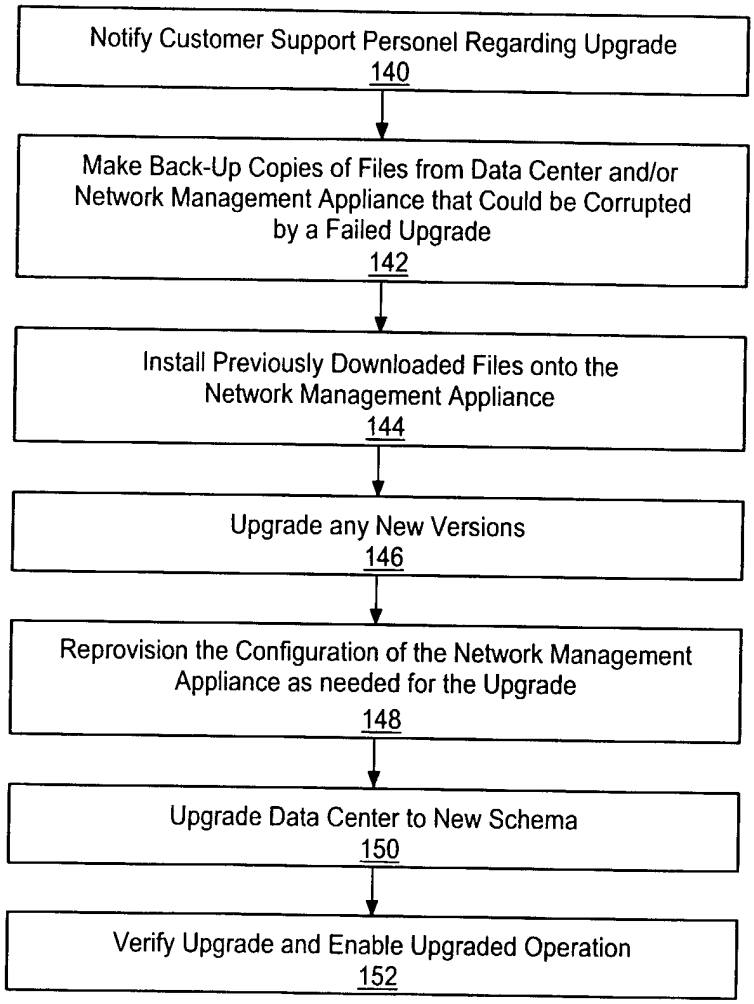
Notify Customer Support Personel Regarding Upgrade
140
Make Back-Up Copies of Files from Data Center and/or Network Management Appliance that Could be Corrupted by a Failed Upgrade
142
Install Previously Downloaded Files onto the Network Management Appliance
144
Upgrade any New Versions
146
Reprovision the Configuration of the Network Management Appliance as needed for the Upgrade
148
Upgrade Data Center to New Schema
150
Verify Upgrade and Enable Upgraded Operation
152

FIG. 7

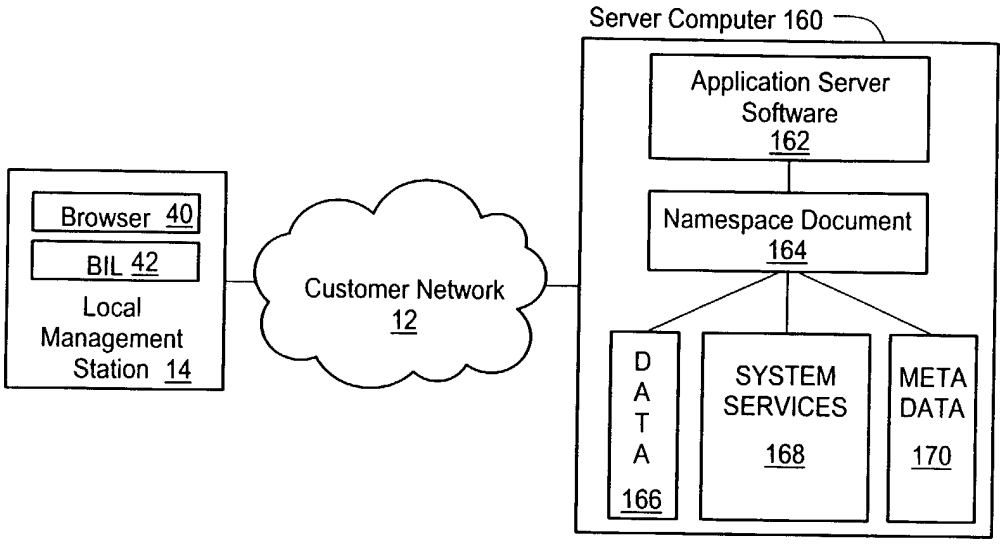
Server Computer 160
Application Server Software 162
Namespace Document 164
Browser 40
BIL 42
Local Management Station 14
Customer Network 12
DATA 166
SYSTEM SERVICES 168
META DATA 170

FIG. 8

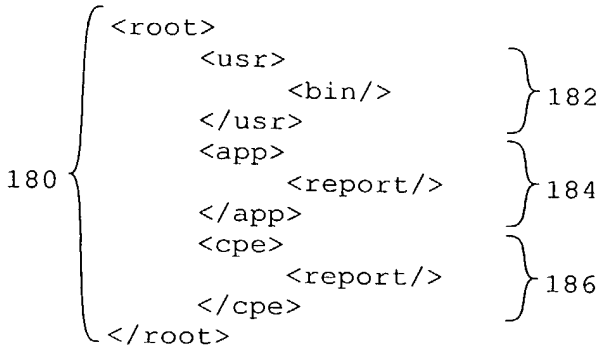

FIG. 9

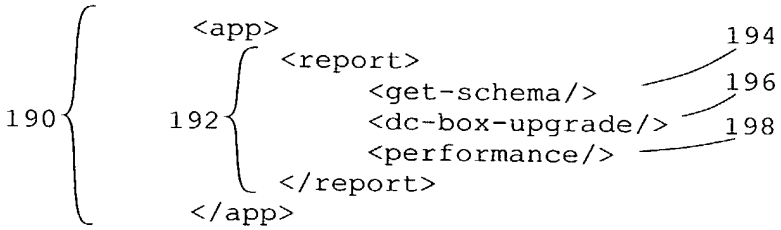

FIG. 10

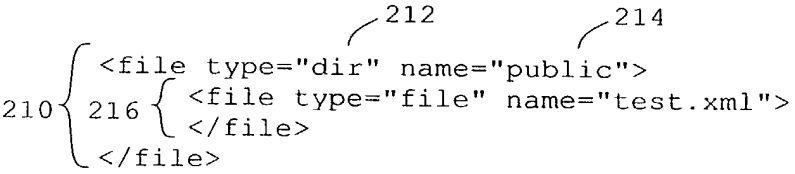

FIG. 11

```
<file type="file" name="get-schema">                    222
     <access-specification>
          <access-control-entry>                        224
               <role>Admin</role>
               <permissions>
                         <read/>
                    <write/>
                    <delete/>
                    <add/>
               </permissions>
          </access-control-entry>
     </access-specification>
</file>
```

220

FIG. 12

```
<file type="dir" name="public"
     <file type="file" name="test.xml">
          <physical type="xml">
               <file>/usr/local/system/mytest.xml</file>
          </physical>
     </file>
</file>
```

230, 232, 234

FIG. 13

```
<file type="dir" name="public"                          244
     <file type="file" name="get-schema">
          <physical type="xlet">
               <language type="perl"
class="/usr/local/silverback/bin/get-schema.pl"/>
          </physical>
     </file>
</file>
```

240, 242

FIG. 14

```
<root>
     <usr>
          <bin/>
     </usr>
     <app>                                          250
          <report/>
     </app>
     <cpe>
          <report/>
     </cpe>
     <system>
          <file type="dir" name="root">
               <file type="dir" name="usr">
                    <file type="file" name="bin"/>
               </file>
               <file type="dir" name="app">
                    <file type="file" name="report"/>
               </file>
               <file type="dir name="cpe">
                    <file type="dir" name="report"/>
                         <access-specification>
                              <access-control-entry>
                                   <role>Admin</role>
                                   <permissions>
                                        <read/>
                                        <write/>
                                        <delete/>
                                        <add/>
                                   </permissions>
                              </access-control-entry>
                         </access-specification>
                         <file type="file" name="get-schema">
                              <physical type="xlet">
                                   <language type="perl"
     class="/usr/local/silverback/bin/upgrade/get-
                                                  schema.pl"/>
                              <physical>
                         </file>
                         <file type="file" name=
                                   "performance.xml">
                              <physical type="xml">

                    <file>/usr/local/system/screens/
                                        performance.xml</file>
                              </physical>
                         </file>
                    </file>
               <file>
```

252

FIG. 15a

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```
                    <access-specification>
                         <access-control-entry>
                              <role>Admin</role>
                              <permissions>
                                   <read/>
                                   <write/>
                                   <delete/>
                                   <add/>
                              </permissions>
                         </access-control-entry>
                    </access-specification>
               </file>
          </system>
     </root>
```

252

250

FIG. 15b

```
add
     <request>
          <name>test</name>
          <parent>/usr/local</parent>
          <type>dir</type>
     </request>
```

260 262 264 266

FIG. 16

```
add
     <request>
          <name>test.xml</name>
          <parent>/usr/local<parent>
          <type>file</type>
          <physical type="xml">
               <file>/usr/local/test.xml</file>
          <physical>
     </request>
```

270 272 274 278

FIG. 17

```
add
    <request>
        <name>get-schema</name>
        <parent>/usr/local<parent>
        <type>file</type>
        <physical type="xml">
            <language type="perl"
            class="/usr/local/silverback/bin/upgrade/
                get-schema.pl"/>
        <physical>
    </request>
```

280 282

FIG. 18

```
add
    <request>
        <name>test</name>
        <parent>/usr/local<parent>
        <type>dir</type>
        <access-specification>
            <access-control-entry>
                <role>Admin</role>
                <permissions>
                    <read/>
                    <write/>
                    <delete/>
                    <add/>
                </permissions>
            </access-control-entry>
        </access-specification>
    </request>
```

290 292 294

FIG. 19

Title: XML FILE SYSTEM
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Docket No.:SBACK-002XX


```
300 <reply>
        <status>
            <code></code>          302
            <message></message>    304
        </status>
    </reply>
```

FIG. 20

```
cp
310 <request>
        <source>/usr/local/test</source>
        <target>/usr/local/test2</target>
    </request>
```

FIG. 21

```
mv
320 <request>
        <source>/usr/local/test</source>
        <target>/usr/local/test2</target>
    </request>
```

FIG. 22

```
rm
330 <request>
        <source>/usr/local/test</source>
    </request>
```

FIG. 23

```
340 <reply>
        <status>
            <code></code>        342
            <message></message>  344
        </status>
    </reply>
```

FIG. 24

```
dir
350 <request>
        <xpath>/usr</xpath>
    </request>
```

FIG. 25

```
360 <reply>
        <directory>
            <get-schema/>
            <performance/>        } 362
            <report/>
        </directory>
        <status>
            <code></code>
            <message></message>   } 364
        </status>
    </reply>
```

FIG. 26

```
dir
370 <request>
        <xpath>/usr</xpath>
        <detail>true</detail>
    </request>
```

372

FIG. 27

```
<reply>
    <directory>
        <get-schema>
            <type>xlet</type>
            <physical type="xlet">
                <language type="perl"
class="/usr/local/silverback/bin/upgrade/get-schema.pl"/>
            </physical>
        </get-schema>
        <performance>
            <physical type="xml">
380     <file>/usr/local/system/screens/performance.xml
    </file>
            </physical>
        </performance>
        <report>
            <type>dir</type>
        </report>
    </directory>
    <status>
        <code></code>
        <message></message>
    </status>
</reply>
```

FIG. 28

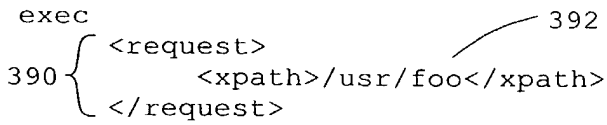
exec
<request>
<xpath>/usr/foo</xpath>
</request>
390
392

FIG. 29

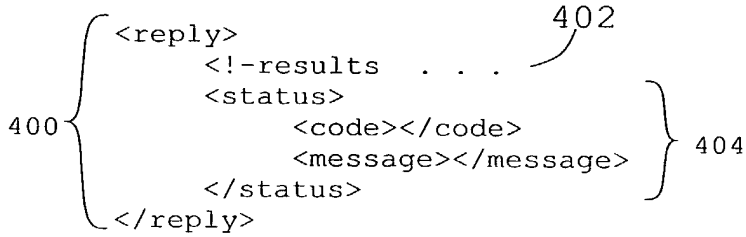
<reply>
<!-results . . .
<status>
<code></code>
<message></message>
</status>
</reply>
400
402
404

FIG. 30